

Describe how infection can impact the urinary tract and its function

A urinary tract infection can be caused by an obstruction within the urinary tract, or reflux flow of urine.

Cystitis:

A bladder infection that is caused by pathogens of some sort (commonly e-coli) and it can back track into the kidney, untreated cystitis can lead to pyelonephritis

Pyelonephritis:

Result of bacterial infection of the kidneys and renal pelvic. Can be caused by infection in the blood stream or infection back tracking from the bladder.

Symptoms – dysuria (pain on urination), frequency and urgency, chills and fever, back pain, polyuria (large volume of dilute urine), pyuria (puss in urine) or leukocytes in urine (indicative of infection)

Describe the causes, treatment and outcome of acute renal failure

Acute renal failure, is when there is a reduction in renal functions and elevation in blood urea nitrogen and creatinine levels

1. Oliguric/anuric phase
2. Diuretic phase
3. Recovery phase

Oliguria – 500mL/day
Anuric – <400mL/day

Produce about 600 mosmol of waste, and the minimum volume of urine where that much can be excreted is about 500mL/day

Oliguric/anuric phase

Is when there is a urine output of <400mL lasting up to 10-14 days.

- Fluid retention: Oedema, water intoxication and pulmonary congestion
- Hypertension: Due to increased fluid in plasma
- Retention of metabolic waste: Urea, creatinine, potassium, hydrogen
- Metabolic acidosis: Kidney unable to excrete these wastes
- Neurological manifestations: Drowsiness, seizures, come, neuromuscular irritability
- Anuritic patients can only survive 1-2 weeks unless renal functions are restores or they undergo dialysis therapy

Diuretic phase

Usually begins 6 weeks after oliguria, it indicates that the nephrons can excrete urine but the ability to reabsorb is still impaired, therefore the 'good stuff' goes with the urine, but atleast there is improvement.